

REMARKS

In paragraph 1 of the Office Action it is indicated that in response to Applicant's amendment filed 5/31/05, that the specification and claim objections have been withdrawn, and Applicant's withdrawal of claims 1-13 pursuant to the prior restriction requirement is confirmed.

In paragraph 2 of the Office Action, in Response to Applicant's prior Arguments it is stated:

"Applicant's arguments filed 5/31/2005 have been fully considered but they are not persuasive. The applicant has argued against the '531 patent stating that the patent is directed to controlling and calming the surface of a bath between subsequent dipping of different sets of articles. The examiner respectfully disagrees. While '531 discloses the surface waves can be reduced between subsequent immersions of different sets, '531 also discloses surface waves are a hindrance when multiple articles are immersed at the same time (Column 1, lines 35-40).

The applicant has argued '531 does not teach intercepting surface waves within the bath at all time during the lowering and/or the removing of the substrates from the bath. In particular the applicant has cited passages where the wave-suppressing member, as taught by '531, is entirely immersed in the bath. The examiner respectfully disagrees. The examiner directs the applicant attention to the passage recited at col. 4, lines 8-19:

The screen 12, however, is now positioned immediately adjacent the to opening of the noted chamber and in effect acts as a cover-like element for that chamber. Now, as articles are immersed through the openings 24 into the powder material, the top surface level of that bed will, of course, again rise but in this case it will tend to overflow the side walls 14 which act as weirs. Thus, a further leveling effect and maximum retention of material in the bed will be controlled through the overflow of weir type action.

In addition '531 discloses providing the screen as the substrates are immersed and withdrawn from the coating material (Column 1, lines 49-51). The position of the screen, as taught by the above passage, discloses positioning the screen in constant contact with the upper surface of the immersion bath during all portions the immersion and therefore the screen inherently intercepts the surface waves at all times during the lowering and removing from the bath as required by the amended claims." Emphasis added

Responsive hereto, Applicant respectfully traverses this ground of rejection and asserts that the claims recite subject matter that is not taught by nor obvious from the cited prior art. With particular regard to the above emphasized interpretation of the teachings of the '531 patent, Applicant asserts that the position of a screen fixed at the top edge of the tank does not inherently

intercept the surface waves at all times during the lowering and removing of articles from the bath, as is required by the amended claims.

As is described in the above quoted col. 4, lines 8-19 of the '531 patent, when objects are lowered into the '531 tank, the fluidized powder level rises up through the screen and overflows the side walls of the tank. Therefore, with regard to the lowering of articles into the '531 tank, as articles are initially lowered, the fluid level within the tank is not initially in contact with the screen, and surface waves are not intercepted at this time. Thereafter, as articles are more fully lowered into the tank, the fluid level reaches the screen and then overflows the screen and overflows the side walls of the tank. Thereafter, significantly, as the articles are removed from the tank, the liquid level drops as some fluid has overflowed from the tank, and when the fluid level is below the screen level at this time the screen no longer intercepts the surface waves.

Therefore, in distinguishing claim 14, as articles are removed from the '531 tank, the '531 patent does not teach that the surface waves are intercepted at all times during the removal process, as recited in previously amended independent claim 14. Likewise, with regard to previously amended dependent claim 15, the '531 patent does not teach that surface waves are intercepted at all times during the lowering of articles into the tank. Applicant therefore respectfully submits that previously amended independent claim 14 and dependent claim 15 each recite subject matter that is neither taught by nor obvious from the teachings of the '531 patent.

In paragraphs 3-5 of the Office Action claims 14-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 5028471 by Takuma, hereafter '471 in view of US Patent 3979531 by Heller, hereafter '531, stating:

"Claims 14-17 and 19 remain rejected for the same reasons set forth in the office action date 3/7/2005, as well as for the reasons set forth in section 2 above."

Responsive hereto, Applicant respectfully traverses this ground of rejection. In this regard, Applicant relies on its comments set forth above with regard to the teachings of the '531 patent embodiment having the screen disposed at the top edge of the tank, as well as Applicant's arguments submitted in response to the first Office Action that are directed to embodiments of the '531 patent in which the screen is located at particular levels within the tank. Based thereon, Applicant asserts that claims 14-17 and 19 recite limitations that are not taught by nor obvious

from the cited prior art; specifically that surface waves are intercepted at all times during the removal (claim 14) and lowering (claim 15) of articles into the bath.

In paragraph 6 of the Office Action claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over '471 in view of '531 as applied to claim 16 above, and further in view of Abstract of Japanese Patent 2000000512 by Masashi et al, hereafter '512, stating:

"Claim 18 remains rejected for the same reasons set forth in the office action date 3/7/2005, as well as for the reasons set forth in section 2 above."

Responsive hereto Applicant notes that claim 18 is a dependent claim, and Applicant relies on its remarks set forth hereabove with regard to the allowability of claims from which claim 18 depend. Applicant therefore respectfully submits that claim 18 is allowable in that it depends from an allowable base claim.

In that this Final Office Action reasserts the prior rejection, for completeness and convenience sake Applicant next includes its prior comments which further distinguish the claims (as previously amended) from the cited prior art.

As indicated in Applicant's specification, Applicant's invention is directed towards creating a uniform thin lubrication film upon a disk surface, where this uniform thin film is primarily created by the smooth withdrawal of the disk from a lubricant bath. Any small surface waves which occur during the removal process, and to some extent even in the insertion process, can create areas on the disk having multiple layers of lubricant. Therefore, it is important in Applicant's invention that the surface waves be intercepted at all times during the disk removal step. Independent claim 14 has been previously amended in this regard.

As is further described in Applicant's specification, to accomplish the interception of the surface waves, a wave intercepting member is disposed upon the surface of the lubricant bath between adjacent disks. This wave intercepting member is disposed at the liquid bath surface at all times during the removal of the disks from the lubricant bath to intercept the surface waves; and it can also be important that the wave intercepting member be disposed on the surface of the lubricant bath during the lowering of the disks into the lubricant bath to intercept surface waves that may occur during the lowering of the disks. Dependent claim 15 has been previously amended to further describe this feature of Applicant's method. The rejection is next discussed.

Initially, Applicant asserts that there is no teaching or motivation for the combination of the '471 and '531 prior art to support the rejection. With regard to the '471 patent, it fails to disclose that there is any problem associated with thin film lubricant multilayers upon the surface of its process disk. Nor does it disclose that a problem may be associated with small surface waves within the lubricant bath, and particularly surface waves between the disks during a single coating operation.

The '531 patent, while discussing surface turbulence is actually directed to controlling and calming the surface of a bath between subsequent dippings of different sets of articles within the bath. It states in Col. 2, lines 47-56:

“As has been indicated above, in most instances the typical fluidized bed coating operation does not necessitate the accurate control of powder level within the bed. Further, in dipping operations in which only partial article immersion is anticipated, turbulent surface conditions may be created that will not restabilize prior to subsequent article immersion. Thus, where there is some criticality with respect to the coating parting line on the article bed top surface stabilization and control also becomes imperative.” Emphasis added

Thus neither '471 nor '531 discuss surface waves in a liquid bath, nor the problem they create between disks during a single coating process. There is therefore no motivation demonstrated in these patents for the combining of the teachings of these two patents.

Alternatively and additionally, with regard to the substantive rejection based upon the combined teachings of the cited prior art, '471 merely teaches the generalized utilization of a lubricant bath, and, as indicated in the office action, “fails to disclose intercepting the surface waves within the bath prior to the waves reaching another of the disks.” The rejection relies on the teachings of the '531 patent in this regard. However, the '531 patent neither teaches nor renders obvious Applicant's invention as set forth in amended independent claim 14, as well as amended dependent claim 15. Specifically '531 fails to teach that the screen or plate member should be disposed at the surface of the bath at all times during the removing of the disks from the bath. Where the screen of '531 is disposed below the surface of the “liquid” (as depicted in Fig. 2), there is no wave intercepting device disposed upon the surface, and therefore there is no interception of any surface waves at this time. The '531 disclosure therefore fails to teach the significance of intercepting surface waves at all times during the removal of objects from the bath. Specifically, it is recited in '531 and depicted in Figs. 1 and 2:

Col. 1, lines 42-45:

“Accordingly, this invention provides for the inclusion of a screen or a similarly configured plate member that is positioned above but proximate the normal fluidized pulverulent material level in the bed.” Emphasis added

Col. 1, lines 52-62:

“The proximity of the screen to the powder bed top surface is such that upon article immersion into the powder bed its elevational increase due to powder particle displacement will assure contact between the screen and powder. In fact, the level may be such that the screen becomes entirely immersed. However, in either case the contact with or immersion of the screen has the effect of minimizing surface turbulence and thus maintains a pulverulent material surface uniformity that will generate a coating parting line consistency within suitable tolerances.” Emphasis added

Col. 2, lines 64 - col. 3; line 11:

“As is indicated by the dimension A the screen is elevated above the fluidized powder top surface by some small amount A. The dimensional extent of A may, of course, vary depending upon the size shape and number of articles that are to be dipped simultaneously since in all instances it is imperative that upon article immersion the powder level must be elevated by the amount A which will at least assure contact with the screen 12. In fact, in some instances, it may be desirable to have the bed level due to immersion of articles therein increase substantially more than amount A so as to totally immerse the screen as is shown in FIG. 2. There it can be seen that the powder bed level is above the screen by some amount B which amount will be subject to experimental determination based upon the conditions of article immersion.” Emphasis added

Applicant therefore respectfully submits that the prior art references fail to teach or render obvious Applicant's invention as set forth in amended independent claim 14 and dependent claim 15 that the surface waves must be intercepted at all times during the removing of the hard disks from the lubricant bath. Applicant therefore respectfully submits that amended independent claim 14 and dependent claim 15 recite subject matter that is not obvious from the cited prior art.

With regard to dependent claims 16, 17 and 19, Applicant submits that the features recited therein with regard to the shape and side surface characteristics of the wave intercepting member are neither taught by nor obvious from the cited prior art. In addition, Applicant further

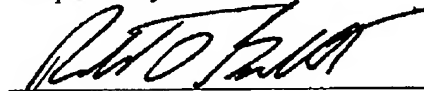
submits that dependent claims 16, 17 and 19 are allowable in that they depend, either directly or indirectly from an allowable base claim.

Having responded to all of the paragraphs of the Office Action, and having amended the claims accordingly, Applicant respectfully submits that the Application is now in condition for allowance. Applicant therefore respectfully requests that a Notice of Allowance be forthcoming at the Examiner's earliest opportunity. Should the Examiner have any questions or comments with regard to this amendment, a telephonic conference at the number set forth below is respectfully requested.

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Respectfully submitted,



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August 19, 2005
(date)


(Signature of Patricia Beilmann)